

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in this application:

## **LISTING OF CLAIMS:**

Claims 1 to 8. (Canceled).

9. (Currently Amended) A method for manufacturing a low-sintering PZT-based piezoelectric ceramic material having the general formula  $\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)\text{O}_3$ , comprising: mixing together ions added in the form of powdered oxides or powdered carbonates of at least lead, zirconium and titanium as starting compounds, and calcining the starting compounds to form the piezoelectric ceramic material, wherein after calcining the starting compounds, lithium in salt form is added to the mixture in an amount in the range of 0.01 to 0.1 wt.% in relation to the weight of the PZT ceramic, wherein a sintering temperature in the range of 850°C to 950°C is obtained for the mixture of calcined starting compounds and ionic lithium.

10. (Previously Presented) The method according to Claim 9, wherein lithium is added in the form of  $\text{Li}_2\text{CO}_3$  or  $\text{LiNO}_3$ .

11. (Currently Amended) The method according to Claim 9, wherein the starting ~~compounds are simply~~ compound mixture is doped using rare earth metals.

12. (Previously Presented) The method according to Claim 11, wherein the rare earth metal is La or Nd.

13. (Currently Amended) The method according to Claim 10, wherein the starting ~~compounds are simply~~ compound mixture is doped using rare earth metals.

14. (Currently Amended) The method according to Claim 9, wherein the starting ~~compounds are~~ compound mixture is doped using combinations of elements selected from the group consisting of Ca, La, Nb, Fe, and Cu.

15. (Currently Amended) The method according to Claim 10, wherein the starting ~~compounds are~~ compound mixture is doped using combinations of elements selected from the group consisting of Ca, La, Nb, Fe, and Cu.

Claims 16 to 19. (Canceled).

20. (Previously Presented) The method according to Claim 9, wherein a sintering temperature of about 900° C is obtained.

21. (Previously Presented) A piezoelectric multilayer actuator having internal electrodes made of pure silver, the actuator comprising a PZT-based low-sintering piezoelectric ceramic material manufactured according to the method of Claim 9.

22. (Previously Presented) A motor vehicle fuel injection system comprising the piezoelectric multilayer actuator according to Claim 21.